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PRINCIPALS' PERCEPTIONS OF SCHOOL AUTONOMY AND
THE RELATIONSHIP OF THESE PERCEPTIONS TO
SELECTED CHARACTERISTICS OF SCHOOLS
AND PRINCIPALS

by



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A THESIS

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The undersigned certify that they have read,
and recommend to the Faculty of Graduate Studies for
acceptance, a thesis entitled "Principals' Perceptions
of School Autonomy and the Relationship of these
Perceptions to Selected Characteristics of Schools
and Principals," submitted by Kevin Arthur Wilson in
partial fulfilment of the requirements for the degree
of Master of Education.

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ABSTRACT

The main purposes of this study were to investigate the perceptions which principals have of the degree of autonomy at the school level, to determine if these perceptions are related to selected characteristics of schools and principals, and finally to review principals' reactions to the amount of influence the school board, the superintendent, and the community, exert on the operations of the school.

The data on which this study was based were collected as part of a larger study carried out in the Department of Educational Administration, University of Alberta. The 639 respondents, who were principals of Alberta schools representing a variety of types and sizes, were asked to indicate the amount of autonomy at the school level to make decisions concerning curriculum, and staff and pupil organization. Multiple linear regression analysis was used to test the relationship between these perceptions and school type, school size, school system type, principal experience and the length of the principal's professional education.

It was found that the principals' responses to the degree of autonomy at the school level showed considerable variation. In general, principals reported least autonomy in the areas of selection of courses and their content,

and most autonomy in making decisions about pupils such as placement and discipline.

Secondly, differences in the autonomy reported were shown to be significantly related to school type and size. Principals of small schools which contained elementary grades perceived least autonomy, while principals of large high schools perceived most autonomy.

Thirdly, some schools are subject to considerable influence from the school board; the major portion of this group being elementary schools. Principals as a group feel that the superintendent and the community exert only a minor influence on school operations.

The main conclusion reached as a result of the study was that principals may not be making full use of the authority that has been delegated to them. It was suggested that principals should involve staff members in establishing decision-making procedures to deal with matters associated with curriculum, and staff and pupil organization.

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CHAPTER I

INTRODUCTION

The amount of autonomy which exists at various levels in an organization has been of central concern in administrative theory. It has been pursued through a study of "authoritarian-democratic" leadership, "centralization-decentralization" of control, "flat" and "tall" organizational structures, "close" versus "general" supervision and "delegation". This interest in organizational control is not confined to general administrative theory; writers in educational administration discuss the merits of one organizational style or another in creating optimum conditions for implementation of the school program.

The adoption of any organizational structure involves the placement of decision-making powers at various points in the hierarchy. The suitability of such an arrangement is measured, in large part, by the reaction of incumbents to the amount of autonomy they perceive as theirs, compared with the autonomy felt desirable to accomplish their tasks. What are the principal's reactions to the presence and need for professional autonomy?

I. THE PROBLEM

The central problem of this study was to investigate the perceptions which principals have of the degree of autonomy at the level of the school, to determine if the amount of autonomy reported is related to selected characteristics of schools and principals, and finally, to determine if the amount of autonomy perceived is restrained by influences from outside the school.

The following sub-problems were therefore investigated:

1. What are the variations in the degree of autonomy perceived by principals with regard to the following decision areas: choosing content of courses, selection of course offerings, the organization of staff, pupil placement and discipline, and, involvement in innovative practices?

2. Is there a relationship between the principal's perception of school autonomy and school type, school size, school system type, and length of his experience as a principal, the length of his principalship at the present school or the extent of his professional training?

3. To what extent does the principal perceive autonomy at the school level to be constrained by the influence of the superintendent, the school board or the local community?

II. IMPORTANCE OF THE STUDY

Situational and personal factors cannot be overlooked in determining the type of organizational structure best suited for a school system. Schools and school units are increasing in size, and administration of the school program is becoming more complex. An analysis of the factors impinging on the degree of autonomy perceived by principals, may indicate elements which can be controlled or modified to produce a control structure better suited to the management of education.

III. DEFINITION OF TERMS

Perception

Perception is defined as a perceptual judgment; a judgment based upon an awareness of factors in the physical and social environment and influenced by the beliefs and attitudes of the individual.

Autonomy

Autonomy refers to the principal's perception of the degree of freedom available to make decisions at the level of the school.

Constraint

Constraint is thought of as any factor or factors which the principal sees as restricting the degree of autonomy at the level of the school.

A number of principal and school characteristics were used as categorical predictors; operational definitions of these are:

School Characteristics

1. Size of School

- a) Small--number of full-time teachers is less than ten.
- b) Medium--number of full-time teachers is equal to or greater than ten but less than twenty.
- c) Large--number of full-time teachers is equal to or greater than twenty.

2. Type of School

- a) Type A--grades one to six.
- b) Type B--grades one to seven, eight or nine.
- c) Type C--grades one to ten, eleven or twelve.
- d) Type D--grades seven to nine.
- e) Type E--grades seven to twelve, or nine to twelve.
- f) Type F--grades ten to twelve.

3. School System Type

- a) Type I--School Division or County.
- b) Type II--City Public School District or City Roman Catholic Separate.
- c) Type III--Town Public, Town Roman Catholic Separate, Village or Rural Public, Village or Rural Separate, or other: Protestant Separate, Consolidated, etc.

Principal Characteristics

1. Length of Experience as Principal
 - a) Group I--one to three years.
 - b) Group II--four to nine years.
 - c) Group III--ten to fifteen years.
 - d) Group IV--sixteen years or more.
2. Length of Principalship in Present School
 - a) Group I--one to two years.
 - b) Group II--three to six years.
 - c) Group III--seven to ten years.
 - d) Group IV--eleven or more years.
3. Length of Professional Education
 - a) Group I--less than three years.
 - b) Group II--three years but less than four.
 - c) Group III--four years but less than five.
 - d) Group IV--five years but less than six.
 - e) Group V--six or more years.

IV. LIMITATIONS, ASSUMPTIONS AND DELIMITATIONS

Limitations

The major limitations which may affect this study are:

- 1) The questionnaire from which the data have been gathered has not been validated or tested for reliability.

- 2) Lack of internal consistency in the questionnaire and ambivalence in the principals' responses may give a distorted picture of the data.
- 3) The questions used to assess the degree of autonomy perceived by principals may not probe some areas which principals feel are significant in assessing the amount of freedom present to make decisions.
- 4) Principals who perceive the same degree of autonomy may report it differently.

Assumptions

In order to make use of the available data the following assumptions were made:

- 1) The questionnaire designed for the 1967 Research Project on the Alberta Principalship provides valid and reliable measures of the variables under consideration.
- 2) The questions selected to investigate "autonomy" as perceived by principals, together present a sufficiently complete picture to be a reliable gauge of principals' opinions.
- 3) The principal is a suitable "spokesman" for indicating the degree of autonomy at the level of the school.

Delimitations

The respondents in this study were selected from

those principals of Alberta schools who completed the 1967 Research Project Questionnaire on the Alberta Principalship. From the initial group of 707 principals, 639 were finally selected because they each had responded to all of the questions treated in this study.

V. ORGANIZATION OF THE THESIS

The present chapter includes an introduction to the problem, statements of the sub-problems, and limitations, assumptions and delimitations associated with the study; the remainder of the thesis is organized as follows. Chapter II deals with the theoretical framework and related research. Instrumentation and data collection are explained in Chapter III. In the following chapter, Chapter IV, the ways in which the data were treated are outlined, while Chapter V reports and discusses results of the statistical analyses of the sub-problems. The concluding chapter, Chapter VI, summarizes the findings of the study and sets out some implications for administrators and for further research.

CHAPTER II

THEORETICAL FRAMEWORK AND RELATED RESEARCH

This chapter develops further the problem stated in the first chapter and sets out the hypotheses. To do this a setting from theory and research is established by drawing from three major sources: literature dealing with perception as a major determinant in administrative behavior; research which reports the principal's perception of his role; and literature in educational administration dealing with the school as a formal organization.

I. PERCEPTION AND ADMINISTRATIVE BEHAVIOR

Analysis of the information gathered by the questionnaire used in this study leans heavily on the notion that the perceptions of school principals produce a reliable estimate of the degree of autonomy present at the level of the school. Discussion of two points therefore seems essential: the meaning of perception in this context, and the reliance on the principal of the school to interpret the school's autonomy.

The idea of perception is employed in a broader sense than the awareness of stimuli in the physical environment. The usual way in which it is used in Social Psychology is as a reaction to a whole series of objects and events. Sarbin speaks of perception as "...an

organized response of a person to a stimulus in a social context" (11, p. 229). In discussing perception, Zaleznik suggests that the statement by Thomas and Znaniecki in their book The Polish Peasant in Europe and America is a suitable description of the factors affecting that response:

The situation involves three kinds of data:
 (1) The objective conditions under which the individual or society has to act, that is the totality of values--economic, social, religious, intellectual, etc.--which at the given moment affect directly or indirectly the conscious state of the individual or the group. (2) The pre-existing attitudes of the individual or the group, which at the given moment have an actual influence upon his behavior. (3) The definition of the situation, that is, the more or less clear conception of the conditions and consciousness of the attitudes (12, pp. 588-589).

Enns discusses the major variables which affect perceptions and judgments of the outside world (6, pp. 23-26). The intention is to highlight the fact that objective reality is distorted in the eyes of the beholder by his unique set of experiences, norms and values. Whatever influences are suggested as affecting perception, theories in social science hold that an individual's behavior is determined to a large extent by his perception of the situation.

Reactions of the principal to the degree of autonomy will undoubtedly involve the concomitants of perception. These reactions take on significance when one considers the key position the principal holds. "He is at once a diagnostician of the problems that his school needs to

solve and a synthesizer of the forces that must be brought together to solve them" (3, p. 226).

As one who is in the position to interpret official policy in the light of his school's needs, the principal is inevitably involved in decision-making which affects the organization and functioning of his school. His estimate of the freedom to make decisions at the level of the school will have a marked affect on the way he operates with his staff to accomplish the school's objectives. Credence is added to the choice of the principal as the interpreter of the degree of autonomy by a report which suggests that leaders surpass nonleaders and isolates in their understanding of issues relevant to the group's goals (5, p. 55).

II. PRINCIPALS' ROLE PERCEPTIONS

Several writers have theorized about the skills of effective principals by postulating four aspects of their role: technical-managerial, human-managerial, technical-educational and speculative-creative skills (8). This kind of thinking about the role of principals is indicative of the changed attitude towards the position in the last two decades. Prior to this time the position was more that of the "head teacher", for the incumbents were only part-administrators having definite responsibilities in the way of classroom teaching. The office

duties associated with the position differentiated it from that of the ordinary teacher. The principals of this era shared a common understanding of their legally-defined position with superintendents, teachers, pupils and parents (4, p. 5).

Today the attention of principals is much more concerned with overall planning and supervision of the teaching and learning situation. With this in mind, the first sub-problem is concerned with an investigation of the amount of autonomy principals perceive at the level of the school to make decisions in the following areas: choosing content of courses, selection of course offerings, the organization of staff, pupil placement and discipline, and involvement in innovative practices. That these are significant is supported by Morin who reported that principals perceived these to be important areas of responsibility (9, p. 64).

III. EDUCATIONAL ADMINISTRATION THEORY

Formal organizations arise in order to coordinate the efforts of individuals in the pursuit of a common goal. Interest in the study of the school as a formal organization has heightened in recent years. During this period the school has been undergoing changes as the impact of varying pressures has been felt.

That which is usually cited first is the rapid increase of the school population. The school-leaving age has been intermittently raised, so that now most students remain in schools for twelve years. This, coupled with the fact that this age-group constitutes an unusually high proportion of the total population, makes the coordination of educational activities a major undertaking.

Other reasons which may be responsible for the changes are the similar, though not identical, movements of school district reorganization and school consolidation. In small schools it was often impossible to offer courses in foreign languages or some of the sciences, but by combining schools and pooling staff resources, students could be offered a wide selection of subjects. Closely associated with this factor has been the increasing degree of specialization among those connected with the educative process. Of late, we have seen the emergence of guidance counsellors, school psychologists, curriculum research officers, as well as the utilization of "para-professionals". Any substantial profusion of specialized roles in an organization is likely to be followed by a more elaborate organizational form for the coordination of the various positions cited. Goslin suggests that the school is still held responsible for the production of a more or less uniform product of a certain minimum quality, and as this task is spread among more

people, we are bound to see the development of increasingly complex administrative structures within the school system (7, p. 133).

In addition to the fact that education has to cater for a larger clientele and employ the services of a growing number of specialists, the process itself is more complicated and demanding. Ross suggests that schools are expected to do things never before considered responsibilities of educational institutions, and to do deeper, more effective jobs in terms of traditional educational purposes (10, p. 6).

The organization of schools and school systems can be seen to have responded to these varying pressures by taking on some of the characteristics of a bureaucracy, but only to a certain degree. Bidwell says that the amount of autonomy granted to, and in some cases demanded by, the teaching staff accounts in large measure for the structural looseness seen as characteristic of a school organization (2, pp. 975-976).

The tendency towards delegation or decentralization of authority from central departments to schools is spoken of by Anderson as an investment in subordinates (1, p. 134).

Discretionary powers close to the point of action, in this case, the learning situation, are seen as appropriate, for reasons of primacy and recency of information surrounding decisions. There is also an expectation of gain due to

the utilization of the experience of participants, which results in greater commitment to the organizational goals and increased motivation.

Variations in the degree of autonomy perceived as necessary in the decision areas cited above, may be attributed to a number of circumstances. In an attempt to gauge the influence of certain personal and situational factors, the following questions were posed:

1. Is the degree of autonomy perceived related to school size, type or system type?

2. Is the degree of autonomy perceived related to the principal's experience or his length of professional education?

These questions form the basis of the hypotheses listed at the end of this chapter.

One further consideration is to be noted. How much restriction is placed on the school's operation by external agencies? Anderson suggests that one factor that limits the realization of anticipated gain from an investment of authority in teachers is the imbalance between authority and expected gain. "There is usually an under-investment of authority in the teacher at the same time that there is an overexpectation of gain" (1, p. 137). In order to investigate the degree of constraint felt by the staff of the school, the principal was asked to report

on the existing relationships between superintendent, board, community and school.

IV. HYPOTHESES

The importance of perception as a determinant of behavior was described and evidence to support the choice of the principal as the spokesman for his school was cited. Changing patterns of school organization have developed as the result of varying pressures and greater authority to make decisions at the school level has resulted. The role of the principal has expanded to include supervision of the educational program, and he feels responsible for an increased number of decisions in the area of pupil and staff organization and curriculum development.

Do schools have sufficient autonomy to realize their goals efficiently? Can variations in the autonomy reported, be accounted for by situational and personal factors? Do external agencies unduly restrict the freedom to make decisions at the level of the school? These are the questions which form the core of the study. The following hypotheses test for significant variations in the degree of autonomy perceived by the principals.

Hypothesis 1

Autonomy scores of principals are a function of school type.

Hypothesis 2

Autonomy scores of principals are a function of school size.

Hypothesis 3

Autonomy scores of principals are a function of school system type.

Hypothesis 4

Autonomy scores of principals are a function of the length of principal experience.

Hypothesis 5

Autonomy scores of principals are a function of the length of the principalship in the present school.

Hypothesis 6

Autonomy scores of principals are a function of the length of their professional education.

The first portion of this chapter established a setting for the study from related literature and research; this was followed by an elaboration of the sub-problems and a statement of the hypotheses. Chapter III describes the data collection, characteristics of the sample and the statistics employed to test the hypotheses.

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CHAPTER III

INSTRUMENTATION AND DATA COLLECTION

The data which have been analyzed in this study were derived from part of a questionnaire designed to gather information for a research project on the Alberta Principalship.* The full questionnaire consisted of 108 questions. The instrument had eleven sections, nine of which asked the principal to report on aspects of his position, while the remaining two sections gathered school and personal data.

This study was concentrated on Section E, which reported the reactions of the principal to the degree of autonomy in five decision areas; Section F, which indicated the principal's reactions and opinions to the amount of freedom to make decisions; Section G, which described the relationships between the school and selected external agencies; and, Section K, which provided information about the school and the principal. These sections of the questionnaire are reproduced in Appendix A.

*The questionnaire was prepared by Dr. E. Miklos, Department of Educational Administration, University of Alberta, as part of a research study which was endorsed by, and carried out under a grant from, the Council of School Administration (Alberta Teachers Association). The questionnaire was administered in 1967, and at the time this study was planned the data had already been transferred to IBM punch cards.

I. THE INSTRUMENT

The principals were asked to answer items in Sections E, F and G by checking one of the responses on a Likert-type scale. Although such a scale is ordinal in character, allowing the ranking of individuals on any particular item, the statistics employed in the analysis assumes interval scaling, for responses to several items were summated and averaged.

Several examples of test items follow:

SECTION E DEGREE OF AUTONOMY

How much freedom or autonomy does your school have in making decisions about the content of various courses?

- (1) Very little or no autonomy;
- (2) Some autonomy which varies with specific situations;
- (3) A generally acceptable level;
- (4) A considerable amount of autonomy;
- (5) Almost complete autonomy.

SECTION G ROLE RELATIONSHIPS

To what extent does the school board in your school system attempt to set rules and regulations over the operation of schools?

- (1) Rules and regulations are established for most of school operations;

- (2) Rules and regulations have been established for many aspects of school operation;
- (3) Regulations are restricted to some very specific aspects of school operation;
- (4) There are few clearly designated rules and regulations.

II. THE SAMPLE

The questionnaires were distributed to all school principals in Alberta. Returns were received from 707 principals, but only 639 were utilized. The sixty-eight questionnaires which were excluded contained no response to at least one of the twenty-two items which provided data for this study. To facilitate statistical analysis the twenty-two items were selected out from the original 108 questions and punched on a separate deck of IBM cards.

Table I shows the schools in the sample classified according to type, size and system type. Almost one-third of the schools contained only elementary grades, slightly more than four-fifths were schools containing some elementary grades, and schools containing only secondary grades constituted a little under one-fifth of the total group. Schools were grouped according to size into categories based on the number of full-time teachers on the staff. Those with less than ten teachers made up about thirty per cent of the group; the middle category, which had ten to nineteen teachers,

TABLE I

SCHOOLS IN THE SAMPLE CLASSIFIED ACCORDING
TO TYPE, SIZE AND SYSTEM TYPE

Characteristics	Number	Per cent
Grades included:		
1-6	206	32.2
1-7, 8 or 9	195	30.5
1-10, 11 or 12	123	19.3
7-9	36	5.6
7-12 or 9-12	44	6.9
10-12	<u>35</u>	<u>5.5</u>
Total	639	100.0
Number of teachers:		
1-9	194	30.3
10-19	260	40.7
20 or more	<u>185</u>	<u>29.0</u>
Total	639	100.0
System type:		
School Division or County	333	52.1
City Public or Separate	258	40.4
Other	<u>48</u>	<u>7.5</u>
Total	639	100.0

comprised about forty per cent of the group; and the remaining schools, about thirty per cent, had twenty or more teachers on staff. The system type classification included three categories, those schools in division or county systems made up a little more than half of the group, city public or separate schools about two-fifths of the sample and the remaining schools formed a miscellaneous group slightly more than seven per cent of the total.

Table II orders principals according to length of experience as a principal, length of principalship at the present school and the length of professional education. Principals with one to three years of experience formed a little over one-quarter of the sample, those with four to nine years of experience about one-third of the group, and the categories with ten to fifteen or sixteen or more years of experience each represented about one-fifth of the total. Almost two-fifths of the principals had held the position in the present school for only one or two years, approximately one-third had three to six years of experience, about one-sixth had seven to ten years of experience and the remainder had had eleven or more years as principal of the school.

TABLE II

PRINCIPALS IN THE SAMPLE CLASSIFIED ACCORDING TO
 LENGTH OF EXPERIENCE AS PRINCIPAL, LENGTH
 OF PRINCIPALSHIP IN PRESENT SCHOOL AND
 LENGTH OF PROFESSIONAL EDUCATION

Characteristics	Number	Per cent
Years of experience as principal:		
1-3	170	26.6
4-9	206	32.2
10-15	137	21.4
16 or more	126	19.7
Total	639	100.0
Years of principalship in present school:		
1-2	250	39.1
3-6	204	31.9
7-10	104	16.3
11 or more	81	12.7
Total	639	100.0
Years of professional education:		
less than 3	63	9.9
3 but less than 4	60	9.4
4 but less than 5	222	34.7
5 but less than 6	143	22.4
6 or more	151	23.6
Total	639	100.0

CHAPTER IV

TREATMENT OF THE DATA

This chapter outlines the ways in which the data were treated in order to investigate the three sub-problems.

Sub-problems one and three, were respectively concerned with the degree of autonomy perceived by principals in five decision areas and the extent to which the principals felt school autonomy was constrained by external agencies. A computer program was utilized to obtain cross classification tables for the variables analyzed in these sub-problems. These tables are described and discussed in Chapter V.

The remainder of this chapter describes how the criterion measure, perceived autonomy, was derived, and then proceeds to outline the way in which multiple linear regression was used to test the hypotheses.

I. CRITERION SCORE: PERCEIVED AUTONOMY

The criterion measure, perceived autonomy, was obtained by summing the individual's responses to items which asked the principal to respond to the degree of autonomy the school had to make decisions in the following areas: the selection of content for various courses, the selection of electives and course offerings, the organization of staff, the organization and discipline of pupils,

innovation, and the overall degree of autonomy. The average score was 3.17; mean scores on the items ranged from 2.11 to 3.97. When the scores were summed, the overall mean was 18.58 with a standard deviation of 4.56. Each of the items correlated highly with the total score; these correlations ranged from 0.58 to 0.83. Tables setting out this information are included in Appendix B.

II. STATISTICAL TECHNIQUES

Multiple Linear Regression

The technique known as Multiple Linear Regression, pioneered by Bottenberg and Ward, was employed to test hypotheses 1 to 6 (1). The assumptions underlying this approach to analysis of research problems are not as restrictive as those made for traditional analytical procedures. "Predictor variables in linear regression models are not assumed to come from multivariate normal distributions" (1, p. vi). Several researchers in educational administration at the University of Alberta who have employed the technique, have described its use in research design and statistical analysis (2, pp. 58-65. 3, pp. 84-89). Some of the models used in this study were similar to those devised by O'Reilly, in that additional vectors were added to control for certain variables (3, p. 89). The models for hypothesis 2 with controls included are set out as follows:

$$\text{Model 1: } X_1 = a_2X_2 + a_3X_3 + a_4X_4 + a_5X_5 + a_6X_6 \\ + a_7X_7 + a_8X_8 + a_9X_9 + \text{error}_1 (e_1)$$

$$\text{Assumption: } a_2 = a_3 = a_4 = a$$

$$\text{Let } X_{10} = X_2 + X_3 + X_4$$

$$\text{Model 2: } X_1 = aX_{10} + a_5X_5 + a_6X_6 + a_7X_7 + a_8X_8 \\ + a_9X_9 + \text{error}_2 (e_2)$$

where, X_1 is a vector of the criterion variable,
perceived autonomy;

X_2 , X_3 , and X_4 are vectors of 1's and 0's
indicating the group membership of a prin-
cipal, where those in a large school are in
group 1, medium-sized schools in group 2,
and those who are in small schools are in
group 3;

X_5 , X_6 , ..., X_9 are controls: school type,
school system type, length of experience
as a principal, length of principalship at
the present school and length of
professional education;

a_1 , a_2 , ..., a_9 are unknown weights associated
with the vectors of prediction and control
variables;

e_1 and e_2 are the error or residual
vectors for Models 1 and 2 respectively.

Extended Analysis

Further analysis was carried out in this study on the pairs of models which produced significant F ratios. The object of the extended analysis was to ascertain which of the original categories in the first model differed significantly from the others. To accomplish this, further models were created which contained all possible pairings of the vectors in the first model, while retaining the character of the remaining vectors. As an example, there follows an explanation of the extended analysis of the models which test the relationship of school type to the criterion measure, perceived autonomy.

Original Models

$$\text{Model 1: } X_1 = w_2X_2 + w_3X_3 + w_4X_4 + w_5X_5 + w_6X_6 + w_7X_7 + \text{error}_1$$

$$\text{Assumption: } w_2 = w_3 = w_4 = w_5 = w_6 = w_7 = w$$

$$\text{Let } X_8 = X_2 + X_3 + X_4 + X_5 + X_6 + X_7$$

$$\text{Model 2: } X_1 = wX_8 + \text{error}_2$$

where, X_1 is a vector of the criterion measure, perceived autonomy;

$X_2, X_3, \dots, X_7$ are vectors of 1's and 0's indicating the group membership of a principal. Principals in group 2 are in a school with grades 1 to 6; group 3, grades 1 to 7, 8 or 9; group 4, grades 1 to 10, 11 or 12; group 5, grades 7 to 9; group 6, grades

7 to 12 or 9 to 12; group 7, grades 10 to 12;

X_8 is the unit vector;

$w_2, w_3, \dots, w_7$ are unknown weights associated with predictor variables;

e_1 and e_2 are the residual vectors for the two models.

When these two models were compared an F ratio of 8.24 and a probability of 0.00 indicated that knowledge of group membership contributes to the prediction of perceived autonomy of principals. In order to find which of the six groups of principals differed significantly on the criterion measure, additional models, described below, were compared with the original unrestricted model.

Additional Models

The original vectors for Model 2 were representing the following types of schools, classified according to grades taught.

X_2 : grades 1 to 6; (Type 1)

X_3 : grades 1 to 7, 8 or 9; (Type 2)

X_4 : grades 1 to 10, 11 or 12; (Type 3)

X_5 : grades 7 to 9; (Type 4)

X_6 : grades 7 to 12 or 9 to 12; (Type 5)

X_7 : grades 10 to 12. (Type 6)

Additional vectors X_9 - X_{23} were produced by making all possible pairings of the six cited above.

The first or unrestricted model, which is explained

in detail in the previous section, is written as follows:

$$\begin{aligned} \text{Model 1: } X_1 = & w_2X_2 + w_3X_3 + w_4X_4 + w_5X_5 + w_6X_6 \\ & + w_7X_7 + \text{error}_1 \end{aligned}$$

This model was then compared in turn with fifteen restricted models, each of which contained one of the additional vectors X_9 - X_{23} while retaining the unpaired vectors in their original form. The following example indicates the third model produced when the vectors X_2 (the group of schools containing only grades one to six) and X_3 (the group of schools containing grades one to seven, eight or nine) are combined.

$$\begin{aligned} \text{Model 3: } X_1 = & w_4X_4 + w_5X_5 + w_6X_6 + w_7X_7 + w_9X_9 \\ & + \text{error}_3 \end{aligned}$$

If a comparison of Model 1 with Model 3 produced a significant F ratio, then this would indicate that the information as to whether school types fall in to vectors X_2 and X_3 contributes to the ability to predict the criterion measure. If the F ratio is not significant, then the separation of these schools into two vectors does not improve the power of prediction. The results of these extended analyses for hypotheses one and two are given in Chapter V.

REFERENCES FOR CHAPTER IV

- (1) Bottenberg, Robert A. and Joe H. Ward, "Applied Multiple Linear Regression," Lackland Air Force Base, Texas: 6570 Personnel Research Laboratory, 1963, mimeographed. P. 6.
- (2) Eddy, W. P. "Role Orientation and School Organization." Unpublished Ph. D. thesis, University of Alberta, 1968. Pp. 58-65.
- (3) O'Reilly, Robert K. "Teacher Attitudes and Standardization." Unpublished Ph. D. thesis, University of Alberta, 1967. Pp. 84-89.

CHAPTER V

ANALYSIS OF THE DATA

The purpose of this chapter is to discuss the statistical analysis of the sub-problems.

I. PERCEIVED AUTONOMY IN FIVE DECISION AREAS

The first sub-problem was concerned with an analysis of the degree of autonomy perceived by principals in five decision areas: (1) placement, discipline and organization of pupils; (2) innovative practices; (3) organization of staff, placement of teachers; (4) type of program, selection of electives, course offerings; (5) content of various courses.

Procedure

Principals responded to each item on a five-point scale which ranged from very little, to almost complete autonomy. The percentages of responses in each of these areas was calculated for the five types of decision. The decision areas were then ranked from most to least autonomy. Table III indicates the results.

Findings

Principals as a group, felt that they had most autonomy in the placement, discipline and organization of pupils, and least autonomy in the selection of content for

TABLE III
DISTRIBUTION OF PRINCIPALS BY REPORTED
DEGREE OF AUTONOMY IN FIVE
DECISION AREAS

Decision Area*	Degree of Autonomy**				
	Very Little	Some Specific	Accept- able	Consider- able	Almost Complete
(1)	1.9%	6.6%	19.2%	36.8%	35.5%
(2)	5.0	14.2	29.7	37.4	13.6
(3)	10.0	18.8	22.2	30.7	18.3
(4)	22.8	26.3	23.9	18.2	8.8
(5)	32.9	36.3	20.7	7.5	2.7
Average%	14.5	20.4	23.1	26.1	15.7

- * (1) Placement, discipline, organization of pupils
 (2) Innovative practices
 (3) Organization of staff, placement of teachers
 (4) Type of program, selection of electives, course offerings
 (5) Content of various courses

**Decision areas are in rank order from most to least autonomy.

the various courses. The range between the areas of most and least autonomy is quite marked. Just over one-third of the group felt they had almost complete autonomy in making decisions about pupils, while only about three per cent of principals felt they had almost complete autonomy to choose the content of courses. This range is supported at the other end of the scale; two per cent of the group reported very little autonomy in making decisions about pupils, while about one-third indicated very little autonomy in choosing the content of courses. The rankings in three of the five levels of response (very little, some specific, almost complete) were consistent with the overall ranking of the five decision areas.

Discussion

The ranking of the decision areas may be compared with findings in separate studies carried out by Keene and O'Reilly (1, 2). Both studies were concerned with the extent of standardization as a measure of the organizational complexity of a school. The schools in Keene's study were high schools, while O'Reilly's study included only elementary schools.

Keene found that there was least standardization in the area of selecting course content and more in the sector of evaluation, control and discipline of students. O'Reilly hypothesized that the rank order of standardization

in elementary schools would be similar, that is: pupil discipline (highest), pupil evaluation, then course content (lowest). In reporting his findings, which were contrary to those stated by Keene, he suggested that the difference may be attributable to the fact the type of school in the two studies differed.

Findings in the present study support those of O'Reilly. Although there is a large number of elementary schools in the sample, other types of schools are well represented (Table I). It was therefore possible to arrange three groups of schools to probe the question further. Group 1 consisted of 206 elementary schools, Group 2 was made up of 318 schools which contained both elementary and secondary grades, and Group 3 comprised 115 schools which had only secondary classes. Table IV sets out the rankings of the three groups of principals.

In each of the three groups, principals reported most autonomy in the area concerned with the placement, discipline and organization of pupils, and Groups 2 and 3 reported least autonomy in selection of course content. Elementary school principals reported least autonomy in the area of selection of electives, closely followed by decisions about course content. It is not surprising that elementary school principals rank "selection of electives" lowest, for the elementary school has little chance

TABLE IV
RANKINGS OF FIVE DECISION AREAS BY
PRINCIPALS IN THREE GROUPS
OF SCHOOLS

Decision Area	Rankings by type of school		
	Elementary		Secondary
	Elementary	Secondary	
Placement, discipline organization of pupils	1	1	1
Innovative practices	2	2	3
Organization of staff, placement of teachers	3	3	2
Type of program, selection of electives, course offerings	5	4	4
Content of various courses	4	5	5
	(N = 206)	(N = 318)	(N = 115)

to introduce additional subjects to its common core curriculum.

Although the studies by Keene and O'Reilly were concerned with the extent of standardization in certain decision areas, it seems reasonable to assume that the principals' perceptions of autonomy reported in this study would, in large part, reflect the presence or absence of rules and regulations to cover the work situations investigated. While the findings discussed above support the ranking found by O'Reilly, factors other than the type of school probably contribute to the result reported in the present study.

II. RELATIONSHIPS BETWEEN AUTONOMY AND SCHOOL AND PRINCIPAL CHARACTERISTICS

Testing Hypothesis 1

This hypothesis states that the degree of autonomy perceived is a function of school type.

Procedure 1. Multiple linear regression models were constructed to ascertain if knowledge of group membership according to type of school was a significant predictor. The principals were placed in one of six groups in the first or unrestricted model; but in the second or restricted model membership was ignored. In order to control for the effects of school size, system

type, length of experience as a principal, length of principalship at the present school and length of professional education, each model contained this additional information in five continuous predictors.

The two models are as follows:

$$\begin{aligned} \text{Model 1: } X_1 = & w_2X_2 + w_3X_3 + w_4X_4 + w_5X_5 + w_6X_6 \\ & + w_7X_7 + w_8X_8 + w_9X_9 + w_{10}X_{10} \\ & + w_{11}X_{11} + w_{12}X_{12} + \text{error}_1 \end{aligned}$$

$$\begin{aligned} \text{Model 2: } X_1 = & wX_{13} + w_8X_8 + w_9X_9 + w_{10}X_{10} + w_{11}X_{11} \\ & + w_{12}X_{12} + \text{error}_2 \end{aligned}$$

where, X_1 is a vector of perceived autonomy scores;
 $X_2, X_3, X_4, X_5, X_6, X_7$, are vectors of 0's and 1's representing mutually exclusive categories which indicate the group of schools to which a principal belongs;

$X_8, X_9, X_{10}, X_{11}, X_{12}$ are vectors of scores indicating school size, school system type, length of experience as a principal, length of principalship at the present school and length of professional education respectively;

X_{13} is a unit vector formed by summing the vectors $X_2, X_3, X_4, X_5, X_6, X_7$;

$w_2, w_3, \dots, w_7$, a set of weights selected such that the sum of the squared errors is a minimum;

and, e_1 , and e_2 are vectors of error terms.

The two models are compared using the F-statistic which assumes that the error terms in the two models are normally distributed and independent of each other. Table V shows the results.

Procedure 2. In addition to a comparison of the two models in the presence of controls, an F-statistic was derived in the absence of controls. The results of this comparison are also contained in Table V.

Findings. There is a significant relationship between perceived autonomy and school type as indicated by probabilities associated with the F-ratios described in Table V. In the presence of controls $F = 2.57$ ($p = 0.03$) while without controls $F = 8.24$ ($p = 0.00$).

Extended analysis, as described in Chapter IV, demonstrated a significant difference between certain types of schools on the criterion measure. The mean autonomy scores for the six types of schools are given in Table VI. The mean scores for the first three types of schools, which are asterisked, do not differ significantly; nor do the means of the last three types, which are not asterisked, differ significantly from each other. However, any one of the asterisked means was shown to be significantly different from any one of the non-asterisked means. These findings indicate that schools which contained some elementary grades, behaved in a similar fashion as predictors, as did schools

TABLE V

MULTIPLE REGRESSION ANALYSIS: AUTONOMY
PERCEIVED IN SIX GROUPS OF SCHOOLS
CLASSIFIED ACCORDING TO
GRADES TAUGHT

Predictor	Criterion	R^2 full	R^2 restric- ted	df	F	p
Type of school, in presence of: school size, school system type, length of experience as principal, length of principalship at present school, education of principals.	Perceived autonomy at level of school	0.11	0.09	5/627	2.57	.026
Type of school	Perceived autonomy at level of school	0.06	0.00	5/632	8.24	0.00

TABLE VI
MEAN SCORES ON PERCEIVED AUTONOMY
IN SIX TYPES OF SCHOOLS
(N = 639)

School Type	Number	Mean Score
(1) Grades 1-6	206	15.63*
(2) 1-7, 8 or 9	195	16.33*
(3) 1-10, 11 or 12	123	16.09*
(4) 7-9	36	17.70
(5) 7-12 or 9-12	44	17.68
(6) 10-12	35	17.18
Total	639	

*These means do not differ significantly.

with no elementary grades. But schools which contained some elementary grades differed significantly from schools with no elementary grades. The mean scores shown in Table VI range from 15.63 to 17.70 and demonstrate that principals of schools containing only secondary grades perceive significantly more autonomy than principals of schools containing some elementary grades.

Discussion. The hypothesis, that autonomy scores are a function of school type, is accepted. While some schools in Alberta are attempting different patterns of organization at the elementary level, most are following the traditional grade pattern. This means the assigning of each staff member to a particular grade and the consequent responsibility of teaching most, if not all, subjects in the curriculum. Principals of schools containing elementary grades may also perceive less autonomy because apart from the inclusion of French as a subject, there is no scope for the introduction of other subjects into the school curriculum. In short, principals may perceive less scope for decision-making concerning curriculum, and pupil and staff organization at the elementary level.

Testing Hypothesis 2

This hypothesis predicted that there would be a relationship between school size and perceived autonomy scores.

Procedure. Multiple linear regression models were constructed so that the effect of membership in a school group of a particular size range as a predictor of the criterion could be tested. The test was carried out both with and without controls. Table VII presents the results.

Findings. There is a significant relationship between perceived autonomy and school size. With controls $F = 12.71$ ($p = 0.00$), and in the absence of controls $F = 29.34$ ($p = 0.00$). The mean score for small schools was 16.21, for medium-sized schools 17.06 and for large schools 18.88. Further analysis, similar to that described in Chapter IV, indicated that each group of schools differed significantly from the others on the criterion measure.

Discussion. The hypothesis is accepted. It seems that the larger the school, the more principals feel free to make decisions concerning staff and pupil organization. As a school increases in size, there are probably more opportunities for the school to offer a wider selection of courses, vary pupil groupings and therefore, to make more decisions.

Testing Hypothesis 3

It was hypothesized that there would be a relationship between school system type and perceived autonomy score.

TABLE VII

MULTIPLE REGRESSION ANALYSIS: AUTONOMY
 PERCEIVED IN THREE GROUPS OF SCHOOLS
 CLASSIFIED ACCORDING TO SIZE

Predictor	Criterion	R^2 full	R^2 restric- ted	df	F	p
School size, in presence of: school type, school system type, length of experience as principal, length of principalship at present school, education of principals.	Perceived autonomy at level of school	0.10	0.06	2/630	12.71	0.00
School size	Perceived autonomy at level of school	0.08	0.00	2/635	29.34	0.00

Procedure. Multiple linear regression models were constructed so that the effect of membership in a school system type as a predictor of the criterion measure could be tested. Again the test was tried both with and without controls.

Findings. The results of the tests are not conclusive, for with controls $F = 3.26$ which is significant ($p = 0.04$), while without controls $F = 2.53$ ($p = 0.08$), which is not significant. Table VIII reports the findings.

Discussion. The hypothesis was rejected, because the F-ratio was barely significant with controls and was not significant without controls. The controls included in the two models were school type, school size, length of principalship, length of principalship at the present school, and length of professional education. The influence of the first two named controls, with each used as a predictor, has been shown above to be significantly related to the criterion measure. It is therefore possible that the weight of these two controls contributes to the significant F-ratio of 3.26 when this third hypothesis is tested.

Testing Hypothesis 4

This hypothesis predicted that length of experience as a principal would be related to scores on the criterion measure, perceived autonomy.

TABLE VIII

MULTIPLE REGRESSION ANALYSIS: AUTONOMY
 PERCEIVED IN THREE GROUPS OF SCHOOLS
 CLASSIFIED ACCORDING TO SCHOOL
 SYSTEM TYPE

Predictor	Criterion	R^2 full	R^2 restricted	df	F	p
School system type, in presence of: school type, school size, length of experience as principal, length of principalship at present school, education of principals.	Perceived autonomy at level of school	0.11	0.10	2/630	3.26	0.04
School system type	Perceived autonomy at level of school	0.007	0.00	2/635	2.53	0.08

Procedure. Multiple linear regression models were used to test the effect of membership in groups of principals varying in experience, with and without controls.

Findings. The results show no relationship, for with controls $F = 1.50$ ($p = 0.21$) and without controls $F = 0.85$ ($p = 0.47$); neither F is significant. The findings are tabulated in Table IX.

Discussion. The hypothesis was rejected. Length of experience as a principal is not a significant predictor of the criterion measure, perceived autonomy.

Testing Hypothesis 5

It was hypothesized that the principal's length of tenure in his present school would be related to the criterion measure, perceived autonomy.

Procedure. Multiple linear regression models were constructed to test the effects of varying lengths of tenure in the principal's present position as a predictor of the criterion measure. Alternative models tested the relationship with and without controls.

Findings. The results indicate no relationship, for with controls $F = 0.49$ ($p = 0.69$) and without controls $F = 0.68$ ($p = 0.56$). These are reported in Table X.

Discussion. The hypothesis was rejected. As with

TABLE IX

MULTIPLE REGRESSION ANALYSIS: AUTONOMY
 PERCEIVED BY FOUR GROUPS OF PRINCIPALS
 CLASSIFIED ACCORDING TO LENGTH OF
 EXPERIENCE AS A PRINCIPAL

Predictor	Criterion	R^2 full	R^2 restric- ted	df	F	p
Length of time as principal, in presence of: school type, school size, school system type, length of principalship at present school, education of principal.	Perceived autonomy at level of school	0.11	0.10	3/629	1.50	0.21
Length of time as principal	Perceived autonomy at level of school	0.004	0.00	3/634	0.85	0.47

TABLE X

MULTIPLE REGRESSION ANALYSIS: AUTONOMY
PERCEIVED BY FOUR GROUPS OF PRINCIPALS
CLASSIFIED ACCORDING TO LENGTH OF
PRINCIPALSHIP AT PRESENT SCHOOL

Predictor	Criterion	R^2 full	R^2 restric- ted	df	F	p
Length of principalship at present school, in presence of: school type, school size, school system type, length of experience as principal, education of principal.	Perceived autonomy at level of school	0.11	0.10	3/629	0.49	0.69
Length of principalship at present school	Perceived autonomy at level of school	0.003	0.00	3/634	0.68	0.56

length of experience as a principal, this predictor is not related to the criterion measure.

Testing Hypothesis 6

This hypothesis stated that there is a relationship between the length of the principal's professional education and perceived autonomy.

Procedure. Multiple linear regression models were used to test the effect of group membership according to extent of professional education, both with and without controls.

Findings. The results, which are shown in Table XI, show no relationship in the presence of controls, for $F = 1.42$ ($p = 0.22$) and a significant relationship in the absence of controls, $F = 6.28$ ($p = 0.00$).

Discussion. The hypothesis is rejected for the absence of a significant relationship when controls are present would seem to indicate that the result obtained without controls is questionable. In other words, the variance indicated when controls are not used is attributable to factors other than the length of professional education of principals.

Summary

In testing hypotheses 1-6 by multiple linear regression analysis, it was found that the only significant

TABLE XI

MULTIPLE REGRESSION ANALYSIS: AUTONOMY
 PERCEIVED BY FIVE GROUPS OF PRINCIPALS
 CLASSIFIED ACCORDING TO LENGTH OF
 PROFESSIONAL EDUCATION

Predictor	Criterion	R^2 full	R^2 restric- ted	df	F	p
Length of education of principal, in presence of: school type, school size, school system type, length of experience as principal, length of principalship at present school.	Perceived autonomy at level of school	0.11	0.10	4/628	1.42	0.22
Length of education of principal	Perceived autonomy at level of school	0.03	0.00	4/663	6.28	0.00

predictors are school type and school size. Furthermore it was possible to show that schools which contained elementary grades differed significantly from schools which had no elementary grades in predicting the criterion measure, perceived autonomy. The former type of school indicated less autonomy than the latter. It was also found that principals of small, medium and large schools reported significantly different degrees of autonomy. As schools increased in size, the degree of autonomy perceived also increased.

III. RELATIONSHIPS WITH BOARD, SUPERINTENDENT AND COMMUNITY

Sub-problem 3 was concerned with an investigation of the principal's perceptions of existing relationships between the school and the following external agencies: the school board, the superintendent and the community.

Procedure

Separate cross-classification tables were developed to indicate the relationships between the school and the school board, the superintendent, and the community. Percentages in each of the four categories of responses (ranging from considerable influence to little influence) were related to the categories of school type and school size. Tables XII, XIII and XIV show the results.

TABLE XII
DISTRIBUTION OF PRINCIPALS BY TYPE
OF RELATIONSHIP BETWEEN
BOARD AND SCHOOL
(N = 639)

School Characteristics	Extent of Rules and Regulations for School Operation*			
	(1)	(2)	(3)	(4)
(1) <u>Type of School</u>				
Grades 1 to 6	31.6%	32.5%	29.1%	6.8%
1 to 7, 8 or 9	17.4	31.3	34.9	16.4
1 to 10,11 or 12	11.4	29.3	35.8	23.6
7 to 9	16.7	41.7	25.0	16.7
7 to 12 or				
9 to 12	11.4	27.3	45.5	15.9
10 to 12	2.9	54.3	31.4	11.4
(2) <u>Size of School</u>				
9 or less				
teachers	21.6	28.4	34.0	16.0
10 to 19				
teachers	18.8	35.4	30.0	15.8
20 or more				
teachers	18.4	34.1	36.8	10.8
Total	16.6	34.9	33.6	14.8

- *(1) Rules and regulations are established for most of school operation;
 (2) Rules and regulations have been established for many aspects of school operation;
 (3) Regulations are restricted to some very specific aspects of school operation;
 (4) There are few clearly designated rules and regulations.

Discussion

The discussions of relationships with the board, the superintendent and the community are treated separately.

Board/School Relationships. About one-sixth of the principals report that the school board sets rules and regulations for most of the factors concerned with school operation. Most of this group were classified in the elementary school group. Principals in the schools which had both elementary and secondary classes felt their schools were subject to least control in the form of rules and regulations emanating from the school board. Size of school does not appear to discriminate.

Superintendent/School Relationships. About two-thirds of the principals report that the superintendent leaves most of the school's operations to the discretion of the school staff, and there is no marked variation in schools of different type or size.

Community/School Relationships. Only a very small percentage of principals (6%) report that the community attempts to exert considerable influence on the school's operations. Junior and Senior High Schools appear to be exposed to least influence. Principals in schools with grades 1 to 10, 11 or 12 report more community influence than schools of other types. Again, size of school does

TABLE XIII
DISTRIBUTION OF PRINCIPALS BY TYPE OF
RELATIONSHIP BETWEEN SUPERINTENDENT
AND SCHOOL
(N = 639)

School Characteristics	Relationship between Superintendent and School*			
	(1)	(2)	(3)	(4)
(1) <u>School Type</u>				
Grades 1 to 6	7.8%	21.4%	54.9%	16.0%
1 to 7, 8 or 9	10.8	21.5	50.3	17.4
1 to 10,11 or 12	9.8	28.5	48.0	13.9
7 to 9	11.1	16.7	55.6	16.7
7 to 12 or				
9 to 12	15.9	34.1	36.4	13.7
10 to 12	2.9	20.0	60.0	17.1
(2) <u>School Size</u>				
9 or less				
teachers	9.8	25.3	46.9	18.1
10 to 19				
teachers	10.4	26.2	48.5	15.0
20 or more				
teachers	8.1	17.3	59.5	15.2
Total	9.6	23.4	51.1	15.9

- *(1) The superintendent attempts to control and determine various aspects of school operation;
 (2) The superintendent expects to be informed and offers advice on school operation;
 (3) The superintendent leaves the school operation to principal and staff but expects to be informed;
 (4) Superintendent seeks limited information about the operation of the school.

TABLE XIV
DISTRIBUTION OF PRINCIPALS BY REPORTED
RELATIONSHIP BETWEEN SCHOOL AND
IMMEDIATE COMMUNITY
(N = 639)

School Characteristics	Community--School Relationship*			
	(1)	(2)	(3)	(4)
(1) <u>Type of School</u>				
Grades 1 to 6	1.0%	4.9%	31.6%	62.6%
1 to 7, 8 or 9	2.6	4.6	32.3	60.5
1 to 10,11 or 12	2.4	8.9	50.4	38.2
7 to 9	0.0	2.8	19.4	77.8
7 to 12 or				
9 to 12	0.0	4.5	38.6	56.8
10 to 12	0.0	0.0	22.9	77.1
(2) <u>Size of School</u>				
9 or less				
teachers	4.1	6.2	34.5	55.2
10 to 19				
teachers	0.4	6.2	38.1	55.4
20 or more				
teachers	0.5	2.7	30.3	66.5
Total	1.2	4.5	33.1	61.1

- *(1) Community attempts to exert considerable influence in many areas of school operation;
 (2) Community attempts to exert considerable influence in specific areas of school operation;
 (3) Community makes some attempts to influence the operation of the school in several areas;
 (4) Community attempts little or no influence on the school.

not discriminate on the amount of community influence felt.

Summary

In general, the principals perceive most external influence to emanate from rules and regulations established by the school board. The responses indicate that the superintendent and the community are perceived as exercising less influence on overall school operations. However, one could not overlook the possibility that both the superintendent and the community may use the school board as a vehicle for achieving their ends.

IV. SUMMARY

This chapter has reported the analysis of sub-problems 1 and 3 and the testing of the hypotheses associated with sub-problem 2.

The analysis of perceived autonomy associated with the five decision areas of selection of course content, the selection of electives and course offerings, the organization of staff, innovative practices and the placement, discipline and organization of pupils, shows some similarity to the findings reported by O'Reilly (3). Otto and Veldman indicate that principals feel these decision areas are of major importance in the task of managing the school (3, pp. 157-160). However, they suggest that researchers should not rely on principals' views alone since teachers and

principals view organizational climate differently. They found that the situations in which principals felt they had considerable autonomy were the situations in which principals felt they exerted most influence. Nevertheless, unless principals feel they have been granted authority to make decisions concerning the educational program in their school, they are unlikely to invest authority in their teachers.

Having noted differences in the degree of autonomy perceived, hypotheses 1 to 6 were tested in order to find if this autonomy was related to school or personal characteristics. Significant relationships were found between autonomy and type of school and autonomy and size of schools. The higher degrees of autonomy were associated with larger schools and schools which contained high school classes.

Principals felt that some pressure was exerted on the general operation of schools by the board, the superintendent and to a minor extent, the community. It was observed that the board exercised most influence through the establishment of rules and regulations for many aspects of school operation.

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CHAPTER VI

SUMMARY AND CONCLUSIONS

I. SUMMARY OF THE STUDY

The major purposes of this study were:

1. To ascertain from responses of principals, the variations in the degree of autonomy at the level of the school;

2. To find if any relationships existed between perceived autonomy and selected school and personal characteristics;

- and, 3. To see to what extent the principal felt that the school's operations were influenced by the school board, the superintendent and the community.

Methodology

The data on which this study was based were collected as part of a larger study carried out in the Department of Educational Administration, University of Alberta. The responses used came from 639 principals representing a variety of school types and situations.

The portions of the questionnaire dealing specifically with autonomy, along with certain information about the school and principal constituted the data for this study. Questions concerned with autonomy included items dealing with major decision areas such as staff and pupil

organization, as well as curriculum decisions. Responses to five decision areas were summed and the resultant total score was used as the independent variable in multiple linear regression analysis. The school information used was school type (according to grade levels taught), school size (determined by number of full time teachers on staff), and the school system type in which the school was included. Details about the principal's experience and the length of his professional education were also obtained. Other items of the questionnaire used were the principal's perception of the extent of external influence on the school's operations.

Findings

1. Principals' responses to the degree of autonomy at the school level showed considerable variation. The group reported least autonomy in the areas of selection of courses and their content, and most autonomy in making decisions about pupils such as placement and discipline.

2. Differences in autonomy were shown to be significantly related to school type and school size. Principals of small schools which contained elementary grades perceived least autonomy, while principals of large high schools perceived most autonomy.

3. Some schools are subject to considerable influence from the school board; the major portion of this

group being elementary schools. Principals as a group feel that the superintendent and the community exert only a minor influence on school operations.

II. CONCLUSIONS

Several considerations preclude the making of any substantial generalizations from this study. Firstly, while all Alberta principals were sent a questionnaire, only 707 replied and of these returns, only 639 were usable. The final sample is therefore not randomly selected. Secondly, the use of parametric statistics when the criterion measure is a score made up from a sum of responses on a Likert-type scale should be used with caution. However, multiple linear regression analysis is reputed to be robust enough to alleviate some of this doubt. The following statements should therefore be seen as tentative, and they apply only to the 639 principals whose responses provided the data for this study.

Perceived Autonomy in Five Decision Areas

There is considerable variation in the amount of autonomy reported by principals in decision areas concerned with school organization and program development. Principals felt that the school had least autonomy in the selection of courses and course content and most autonomy in the management of pupils.

Causes of Variations in Perceived Autonomy

Obviously many personal and situational factors not accounted for in this study could affect the principal's perceptions, but analysis of available data showed that school type and size may be predictors of the degree of autonomy perceived.

Influence of External Agencies

Principals feel that the school board exerts more influence on the operation of the school than either the superintendent or the community.

III. IMPLICATIONS

Implications for Research

Analysis in this study showed that only a minor part of differences in perceived autonomy were accounted for by the school and personal characteristics selected. Further research may indicate factors other than school size and type which affect the degree of autonomy.

While it may be legitimate to compare all types of schools in some decision areas, it is doubtful that a meaningful comparison can be made on others. For example, pupil discipline may be suitable, but selection of courses and even course content, are markedly different decision areas in high schools and elementary schools. If a number of questions dealing with freedom to make decisions in curriculum matters were prepared with either the elementary

or the high school in mind, and administered at the chosen level, the possibility of obtaining better information would be enhanced. One is also prompted to ask if the principal's perceptions of autonomy in these areas agree with the perceptions of his staff. The questions which dealt with the relationships between each of the board, superintendent, community, and the school gave only a general indication of constraint. More satisfactory information would be obtained if the respondents were able to indicate the areas where constraint was felt.

Implications for Administrators

As the subject of autonomy at the level of the school was not thoroughly researched in this study, it is not possible to make positive assertions on the basis of the results obtained. However, one may speculate about the implications for practising administrators.

The considerable variation in scores on the criterion measure, perceived autonomy, indicates that principals place quite different interpretations on existing rules and regulations covering school operations. Some of this variance was accounted for by school type and school size, but principal experience and length of professional education were not significantly related to the criterion measure. There may be some distinction drawn between elementary and secondary schools in departmental regulations because the

latter are affected by external examinations set by the provincial authorities. But if this were an influential factor in determining the amount of autonomy perceived, one would expect secondary school principals to report less autonomy than their counterparts in elementary schools. The opposite result was found in this study. It would appear that elementary school principals are not taking full advantage of the freedom they have to make decisions about the organization and functioning of the school. Furthermore if this interpretation is indicative of the degree of autonomy they grant to staff members it is little wonder that teachers are continually requesting a greater part in decision-making.

All the groups of principals in this study felt the school had considerably more autonomy in organizing pupils and staff, than in selecting courses and course content. As the arrangement of pupils and staff is dependent to a large extent on the choice of subjects and subject content, the imbalance in perceived autonomy should be viewed with some concern. Certain minimal standards may be laid down by provincial authorities, but it is questionable that these provisions are severe enough to have only one-third of the principals reporting an acceptable degree of autonomy with regard to selection of courses and course content.

In short, the tenor of the above remarks is intended

to convey the notion that some principals may not be exercising the authority that is available to them. If these principals are not prepared to accept more responsibility for decisions concerning the functioning of their schools, then they may be either unaware of the authority at their disposal, or, they are disinclined to transmit this delegated authority to the staff. In either case their reluctance to make decisions could impede the desirable development of the educational program in their schools.

Superintendents should therefore familiarize principals with the alternative courses of action which are available, and encourage them to involve staff members in the development of decision-making procedures for dealing with questions of staff and pupil organization, and curriculum development.

The amount of autonomy perceived at the level of the school is not merely a function of the extent to which authority is delegated from supra-systems, but also involves the ways in which that delegated authority is used by the principal and his staff. Administrators have an obligation to see that the delegated authority is utilized to the full in meeting the particular needs of the children in their charge.

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APPENDIX A

SECTIONS OF ALBERTA PRINCIPALSHIP
QUESTIONNAIRE DEALING WITH AUTONOMY

SECTION E DEGREE OF AUTONOMY

Decisions with respect to the organization and operation of schools may be made at the level of the province, the school system or the individual school. The extent to which decisions can be made at the level of the school reflects the amount of autonomy or freedom which the school has. Please consider how much autonomy or freedom your school has in each of the following areas and respond using the following key:

- (1) Very little or no autonomy;
- (2) Some autonomy which varies with specific situations;
- (3) A generally acceptable level;
- (4) A considerable amount of autonomy;
- (5) Almost complete autonomy.

- 49. How much freedom or autonomy does your school have in making decisions about the content of various courses?
- 50. How much autonomy or freedom does your school have concerning the type of program offered by the school in areas such as selection of electives, course offerings, and so forth?
- 51. How much freedom or autonomy does your school have in relation to making decisions about the organization of the staff such as team teaching, departmentalization, placement of teachers?
- 52. How much freedom or autonomy does your school have in relation to making decisions about pupils such as placement, discipline, organization, and so forth?
- 53. How much freedom or autonomy does your school have to engage in innovative practices, to experiment, to try alternative procedures?
- 54. In general, how would you describe the overall degree of freedom or autonomy which exists at the level of your school?

SECTION F REACTIONS AND OPINIONS

55. What is your reaction to the general degree of freedom or autonomy which exists at the level of your school? Select one of the following responses.
- (1) Much more autonomy required;
 - (2) More autonomy required in several areas;
 - (3) Amount of autonomy is generally satisfactory;
 - (4) Perhaps have more autonomy than is required;
 - (5) Many practices could be more standardized across schools.
56. How do you as principal react to the degree of autonomy which you have considering the demands or controls imposed by other administrative levels?
- (1) Much more autonomy required;
 - (2) More autonomy required in several areas;
 - (3) Amount of autonomy is generally satisfactory;
 - (4) Perhaps have more autonomy than is required;
 - (5) Practices could be more standardized or controlled by school system.
57. To what extent are you consulted about decisions made by the school system concerning your school?
- (1) Never or rarely consulted;
 - (2) Sometimes consulted about minor matters;
 - (3) Sometimes consulted about major matters;
 - (4) Generally consulted on various changes;
 - (5) Almost always consulted on decisions which concern the school.
58. What is your impression of the degree of autonomy which teachers in the school would prefer to have in carrying out their work?
- (1) Teachers desire considerably more autonomy generally;
 - (2) Teachers desire more autonomy in specific areas;
 - (3) Teachers regard amount of autonomy as generally satisfactory;
 - (4) Teachers feel they have more autonomy than may be required;
 - (5) Teachers would prefer to have more standardized procedures across schools.

59. What is your view of the degree of autonomy which teachers such as those in your school should have in comparison with what they have?
- (1) Teachers should have much more autonomy in various areas of teaching;
 - (2) Teachers should have more autonomy in clearly designated areas;
 - (3) Teachers have about as much freedom and autonomy as is desirable;
 - (4) Teachers should be given more direction, guidance, and specification about teaching;
 - (5) Teachers should be given much more direction and specification.

SECTION G ROLE RELATIONSHIPS

60. Please select the response which best describes relationships between the superintendent and your school generally.
- (1) The superintendent attempts to control and to determine various aspects of school operation;
 - (2) The superintendent expects to be informed and offers advice on school operation;
 - (3) The superintendent leaves the school operation to principal and staff but expects to be informed;
 - (4) Superintendent seeks limited information about the operation of the school;
 - (5) Superintendent seems unconcerned about school operation.
63. To what extent does the school board in your school system attempt to set rules and regulations over the operation of schools?
- (1) Rules and regulations are established for most of school operation;
 - (2) Rules and regulations have been established for many aspects of school operation;
 - (3) Regulations are restricted to some very specific aspects of school operation;
 - (4) There are few clearly designated rules and regulations.

64. To what extent do teachers in your school expect to become involved in or to influence decisions concerning the organization and administration of the school?

- (1) Teachers expect to participate in or to influence most decisions;
- (2) Teachers expect to influence or participate in those decisions which affect them directly;
- (3) Teachers expect to participate in or influence decisions only from time to time on various issues;
- (4) Teachers seldom interested in becoming involved in decisions or in influencing them.

65. Please select the response which best describes the relationship between the school and the immediate community.

- (1) Community attempts to exert considerable influence in many areas of school operation;
- (2) Community attempts to exert considerable influence in specific areas of school operation;
- (3) Community makes some attempts to influence the operation of the school in several areas;
- (4) Community attempts little or no influence on the school.

SECTION K SCHOOL AND PERSONAL DATA (2)

1. What grades does your school include? Select the response category which most closely describes your school.

- (1) Grs.1 to 6; (2) Grs.1 to 7 or 8; (3) Grs.1 to 9;
- (4) Grs.1 to 10 or 11; (5) Grs.1 to 12; (6) Grs.7 to 9;
- (7) Grs.7 to 12; (8) Grs.9 to 12; (9) Grs.10 to 12.

3. How many full-time teachers are there in your school? Include yourself as principal in the total.

- (1) 4 or fewer; (2) 5 to 9; (3) 10 to 14;
- (4) 15 to 19; (5) 20 to 24; (6) 25 to 29;
- (7) 30 to 39; (8) 40 to 49; (9) 50 or more.

4. In what type of administrative unit is your school included?

- (1) School Division; (2) County; (3) City Public School District;
- (4) City R. C. Separate; (5) Town Public;
- (6) Town R. C. Separate; (7) Village or

Rural Public; (8) Village or Rural Separate;
(9) Other; Protestant Separate, Consolidated, etc.

8. Counting the present school year, what is the total years of experience you have as principal?

(1) 1 year; (2) 2 or 3 years; (3) 4 to 6 years;
(4) 7 to 9 years; (5) 10 to 12 years; (6) 13 to 15 years;
(7) 16 to 18 years; (8) 19 to 21 years; (9) 22 years or
more.

9. For how many years have you been principal of this school?

(1) 1 year; (2) 2 years; (3) 3 or 4 years;
(4) 5 or 6 years; (5) 7 or 8 years; (6) 9 or 10 years;
(7) 11 to 15 years; (8) 16 to 20 years; (9) 21 years or
more.

11. What is the extent of your total academic and professional preparation beyond High School in a Normal School, Teachers' College, and/or university?

(1) less than 2 years; (2) 2 years but less than 3;
(3) 3 years but less than 4; (4) 4 years but less than 5;
(5) 5 years but less than 6; (6) 6 years or more complete
years.

APPENDIX B

MEANS, STANDARD DEVIATIONS AND
INTERCORRELATIONS OF TEST ITEMS
INCLUDED IN CRITERION MEASURE

TABLE XV
MEAN SCORES AND STANDARD DEVIATIONS
ON SIX ITEMS MEASURING
DEGREE OF AUTONOMY
(N = 639)

Decision Area	Mean	S. D.
(1) Placement, discipline, organization of pupils	3.97	0.99
(2) Innovative practices	3.40	1.05
(3) Organization of staff, placement of teachers	3.28	1.24
(4) Overall autonomy	3.16	0.88
(5) Type of program, selection of electives, course offerings	2.64	1.26
(6) Content of various courses	2.11	1.03

TABLE XVI
CORRELATIONS BETWEEN SIX ITEMS MEASURING
AUTONOMY AND THE TOTAL SCORE
FORMED FROM THEIR SUM
(N = 639)

Decision Area	Correlation with total score*
(1) Overall autonomy	0.83
(2) Organization of staff, placement of teachers	0.78
(3) Innovative practices	0.74
(4) Types of program, selection of electives, course offerings	0.68
(5) Placement, discipline, organization of pupils	0.64
(6) Content of various courses	0.58

*Each correlation is significant at the 0.01 level.

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